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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/816,787	03/23/2001	Adam M. Fermier	4650/0H805	5551

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EXAMINER

KIM, YOUNG J

ART UNIT PAPER NUMBER

1637

DATE MAILED: 05/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/816,787	FERMIER ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Young J. Kim	1637	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 January 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-17 is/are allowed.
- 6) ☒ Claim(s) 18-36 is/are rejected.
- 7) ☒ Claim(s) 37 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>6/25/01</u> .   | 6) <input type="checkbox"/> Other: _____                                    |

### **DETAILED ACTION**

This Office Action responds the Amendment received on January 8, 2004.

This Office Action will supersede all rejections and objections made in the previous Office action, mailed on September 9, 2003.

#### ***Drawings***

The Drawings received on January 8, 2004 are acceptable.

#### ***Information Disclosure Statement***

The Office acknowledges the receipt of a cleaner copy of reference #25, Yoshioka et al., cited in the IDS received on June 25, 2001. The reference has been considered and the signed copy of the IDS is attached hereto.

#### ***Claim Rejections - 35 USC § 112***

The rejection of claims 14, 15, 27, 28, and 34 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter, made in the Office Action mailed on September 9, 2003 is withdrawn in view of the Amendment received on January 8, 2004.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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Claims 18-24, 26-28, and 31-36 are rejected under 35 U.S.C. 102(b) as being anticipated by Danssaert et al. (U.S. Patent No. 5,525,300, issued June 11, 1996).

Danssaert et al. disclose an apparatus comprising the below components and a method of its use:

a) a plurality of reaction blocks (Figure 1, components 3, 17, 18, and 19) wherein at least one of the blocks is a hot reaction block and at least one of the blocks is a cold reaction block (Figure 3), wherein a reaction vessel (Figure 1, component 20) has a plurality of openings formed therein;

b) a robotic arm which transfers the reaction vessels from one hot reaction block to one cold reaction block (Figure 1; column 1, lines 29-35; column 4, lines 35-42; column 5, lines 42-45); and

c) a controller having a user interface for inputting temperature and sampling interval, the controller in communication with the blocks and robotic device (column 5, lines 25-42). The apparatus of Danssaert et al. conducts PCR (polymerase chain reaction) which is considered to be non-isothermal reaction (column 7). With regard to the apparatus of Danssaert et al. as well as most of the thermocyclers display the cycle times and their corresponding temperature at said cycle (Figure 1, component 16), rendering instant claim 17 anticipated. With regard to instant claim 18 drawn to an apparatus having a selected kinetics model, such limitation is defined by the claim as being represented by a temperature versus time graph, already discussed above, rendering instant claim 18 anticipated.

The apparatus of Danssaert et al. is disclosed as having a microprocessor that is used to control the range of temperature gradient across the reaction block, and also to program the

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movement of samples into and out of the thermal gradient block as well as having a written software that allows a user to input via the keyboard, compare the input to actual temperature, and turn off or on the heating or cooling units as appropriate (column 5, lines 29-36). The electronics also includes a timer that allows the microprocessor to compare the elapsed time that the reaction mixture has been in a given block and compare it to a desired time input by the user (column 5, lines 38-41), rendering instant claims 20, 19, 21-24, 26, 27, and 36 anticipated (claims recited in the order of dependency).

With regard to claim 28, the apparatus of Danssaert et al. is used to conduct PCR which is considered to be a non-isothermal reaction. Since the method encompasses a method of performing reaction kinetics studies, wherein the temperature profile, "being one of a nonisothermal temperature profile and an isothermal temperature profile," (only requiring one), the method disclosed by Danssaert et al. anticipates instant claims 28, 32, 31, and 33-35.

Therefore, the invention as claimed is anticipated by Danssaert et al.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 25, 29, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Danssaert et al. (U.S. Patent No. 5,525,300, issued June 11, 1996) in view of Burrow et al. (US 2002/0090320 A1, published July 11, 2002, priority October 13, 2000).

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The teachings of Danssaert et al. has been discussed above.

The robotic arm disclosed by Danssaert et al. does not employ a finger grip mechanism.

Burrows et al. disclose a well-known robotic grip technology in transferring samples.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Danssaert et al. with that of Burrow et al. in order to arrive at the claimed invention for the motivation to substitute the robotic arm of Danssaert et al. with a robotic arm which involves a grip mechanism, a technology well-known in the art of automation, as evidenced by Burrows et al. with a reasonable expectation of success.

Additionally, the MPEP, at 2143.02, states that the prior art can be modified or combined to reject claims as obvious as long as there is a reasonable expectation of success. Given that all of the means of transferring samples – *i.e.*, robotic arms – was well known in the art, one of ordinary skill in the art would have had a reasonable expectation of success in using any of the well-known robotic means for sample transfer, further rendering the claims obvious over the cited references.

Therefore, for the above reasons, the invention as claimed is *prima facie* obvious over the cited references.

### ***Conclusion***

Claims 1-17 are allowed. Claims 18-36 are rejected.


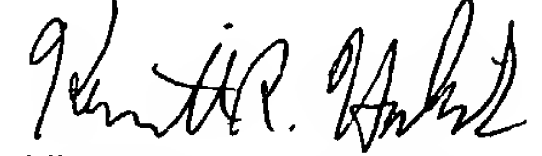
Claim 37 is objected to for being dependent on a rejected base claim.

Amending the claims to require the use of both isothermal and non-isothermal reaction in the claims would render the entire application in condition for allowance.

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*Inquiries*

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Young J. Kim whose telephone number is (571) 272-0785. The Examiner can normally be reached from 8:30 a.m. to 6:00 p.m. Monday through Thursday. If attempts to reach the Examiner by telephone are unsuccessful, the Primary Examiner in charge of the prosecution, Dr. Kenneth Horlick, can be reached at (571) 272-0784. If the attempts to reach the above Examiners are unsuccessful, the Examiner's supervisor, Gary Benzion, can be reached at (571) 272-0782. Papers related to this application may be submitted to Art Unit 1637 by facsimile transmission. The faxing of such papers must conform with the notice published in the Official Gazette, 1156 OG 61 (November 16, 1993) and 1157 OG 94 (December 28, 1993) (see 37 CFR 1.6(d)). NOTE: If applicant does submit a paper by FAX, the original copy should be retained by applicant or applicant's representative. NO DUPLICATE COPIES SHOULD BE SUBMITTED, so as to avoid the processing of duplicate papers in the Office. All official documents must be sent to the Official Tech Center Fax number: (703) 872-9306. For Unofficial documents, faxes can be sent directly to the Examiner at (517) 273-0785. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (571) 272-0507.

  
\_\_\_\_\_  
Young J. Kim  
Patent Examiner  
Art Unit 1637  
5/4/04  
KENNETH R. HORLICK, PH.D  
PRIMARY EXAMINER

5/5/04